ONLINE GRADUATE PROGRAMS IN
SYSTEMS ENGINEERING

EXPLORE NEW HORIZONS
Since the founding of the University of Arizona in 1885, our engineering program has been focused on providing practical, career-driven programs that can lead our students to real-world success. Our online programs in systems engineering are driven by the same goal, providing the advanced education you need to help technological ventures discover new horizons.

Established in 1961 as the nation’s first department of systems engineering, the Department of Systems and Industrial Engineering (SIE) has been consistently recognized for its innovative contributions to large-scale system design involving human, technological, and informational assets. Graduates of our programs have gone on to create complex, interconnected systems for organizations around the world, driving exciting, reliable new developments.

With incredible technological advances being made in the field of software and systems development each and every day, there’s never been a more exciting time to pursue the real-world skills necessary to lead in this industry. Each program examines more than just technical skills, offering in-depth examinations of leadership and business fundamentals that can help you confidently pursue new professional opportunities.

Master of Science in Systems Engineering

The online Master of Science in Systems Engineering examines the design, modeling, and analysis of advanced systems that consist of diverse components – from software and hardware to the skilled operators that employ them. The program, while technical in nature, also focuses on a number of other skills that can help you lead effective, efficient projects that meet requirements, stay on-budget, and remain reliable for years to come.

Graduate Certificate in Systems Engineering

The online Graduate Certificate in Systems Engineering program presents a shorter (but no less practical) path than a full master’s course of study to gaining refined skills in systems development and analysis. The curriculum explores a multitude of critical areas, including statistics, linear programming, and other facets of the systems engineering process. Every course is led by an expert faculty member, providing students with direct access to national leaders in research with real-world expertise.
Master of Science in Systems Engineering

The Master of Science in Systems Engineering program curriculum is flexible and individualized, allowing you to choose which electives and academic experiences suit your future goals. Each course provides a thorough, in-depth, advanced education in systems engineering focused on preparation for the workforce. You’ll also have the opportunity to decide how to complete your requirements, whether through a practical project, thesis, or entirely coursework.

Required Core Courses (9 units):
- SIE 550 Linear Systems Theory (3 units)
- SIE 554A Systems Engineering Processes (3 units)
- SIE 520 Stochastic Modeling (3 units) OR SIE 530 Engineering Statistics (3 units)

Students then select from one of the following 3 options:

OPTION 1: PROJECT

Either a 3- or 6-unit Project may be selected with approval of the faculty advisor. The project option requires a written report and an oral presentation. The report is prepared under the guidance of the major professor and is reviewed by members of the examining committee prior to the oral presentation. The 3-member examining committee consists of the major professor and at least two other members of the faculty elected based on the student's coursework and field of interest. Students will either defend their master's report on campus, or will have to arrange for a teleconference defense.

The remaining elective credits for a total of 30 credit hours will be selected with the approval of an advisor and the Graduate Study Committee.

OPTION 2: THESIS

This option requires 24 units of regular course work, followed by 6 units of thesis research (SIE 910). This option is perfect if you’re looking to work directly with a faculty member to create an original thesis. Thesis work is an excellent complement to course work and constitutes a valuable opportunity to develop an appreciation for and understanding of advanced engineering research. You will only be permitted to select the thesis option with an outstanding academic record.

Your thesis will be prepared under the guidance of the major professor and reviewed by members of the examining committee prior to the oral presentation, which will take place on campus or via teleconference. The examining committee will consist of the major professor and at least two other members of the faculty selected based on your chosen area of interest. Other members of the department may also choose to examine the thesis.

The remaining elective units for a total of 30 units will be selected with the approval of an advisor and the Graduate Study Committee.

OPTION 3: COURSEWORK

A total of 33 units are required for this option. At least 13-unit course must be completed at the 600 level with a grade of “B” or above. The remaining elective credits will be selected with the approval of an advisor and the Graduate Study Committee.

Any remaining units required to meet the 30 (or 33) unit threshold will consist of electives chosen from our course catalog and approved by the Department. Not all of our 600-level courses are offered online each semester. Please check with the department and your faculty advisor before registering.

Graduate Certificate in Systems Engineering

As a student of the online Graduate Certificate in Systems Engineering, you’ll have the opportunity to complete the following 12 units of coursework and choose an elective that matches your interests.

Required Courses (9 units - 3 courses)
- SIE 554 The Systems Engineering Process
- SIE 531 Simulation Modeling and Analysis
- SIE 550 Theory of Linear Systems

Elective Courses (3 units; choose 1 course)
- SIE 530 Engineering Statistics
- SIE 540 Survey of Optimization Methods
- SIE 564 Cost Estimation
- SIE 654 Advanced Concepts in Systems Engineering
Ideal candidates for the online graduate programs in engineering offered by the University of Arizona will meet the following admissions standards:

- Minimum 3.0 GPA in previous academic coursework
- Graduated from an accredited engineering bachelor’s program or have earned a degree in a related discipline
- Some courses may also require that students have completed specific prerequisites

GPA Exceptions – Non-degree-seeking Status

If you do not meet the minimum 3.0 GPA requirement with your undergraduate coursework, you may be admitted to the Graduate College as a Non-degree student. After completing 12 semester units of non-degree graded 500-level or higher coursework with a minimum grade-point average of 3.0, you will be eligible to apply to a degree program.

To apply for any of the University of Arizona’s online programs in engineering, please follow the process below:

1. Complete the online application*, which can be found at: https://apply.grad.arizona.edu/users/login
2. Upload other required materials through the online application process:
   - Unofficial transcripts from all universities/colleges attended
   - An updated resume or CV
   - A brief statement of intent
   - 3 letters of recommendation
   - International students must also meet English proficiency requirements. This can be done by submitting TOEFL, IELTS, or Pearson PTE Academic results
3. If admitted, send official academic transcripts to:
   Graduate College
   The University of Arizona
   Administration 322
   PO Box 210066
   Tucson, AZ 85721-0066
   Express mail (for FedEx, DHL, etc):
   Graduate College
   The University of Arizona
   1401 E University Blvd, #322
   Tucson, AZ 85721
   Phone: 520-621-3471
   Fax: 520-621-4101

Please note that GRE scores are not required.

* The process requires the payment of a $95.00 application fee for international applications, $85.00 for domestic applications, and $45.00 for domestic, non-degree seeking applicants.
Master of Science in Systems Engineering

We're proud to offer these programs at a competitive tuition cost to professionals around the world. For more information about fees and tuition costs, please visit online.engineering.arizona.edu/tuition.

We encourage all students to explore the many funding options available, whether through federal or private loans. Grants and scholarships may also be available. Please visit financialaid.arizona.edu for more information.

Graduate Certificate in Systems Engineering

Please visit http://online.engineering.arizona.edu/tuition/

A History of Excellence and Innovation

Since its founding in 1885, the University of Arizona has stood as a national leader in practical education that helps students achieve incredible things. Our mission is to graduate students who are sought after by employers and prepared to embark on engaging, fulfilling careers.

Equipped with skills, knowledge, experience, and the entrepreneurial spirit they gain at the UA, our students become highly skilled members of society who lead with determination, innovate without limits and benefit our state, our nation, and the world in boundless ways.

The learning materials provided through our online platform are diverse, dynamic, and engaging. Every piece of learning content is shaped by expert faculty and based on our proven on-campus programs. In fact, as an online student, you'll have access to lectures and presentations that were recorded live during a relevant on-campus class session, allowing you to attend class without ever stepping foot in a classroom.

If you have any further questions or would like to begin the application process, please contact an Admissions Counselor:

Phone: (888) 658-2042
Email: onlineengineering@email.arizona.edu

Or visit: online.engineering.arizona.edu